

UNITED STATES NUCLEAR REGULATORY COMMISSION

REGION II SAM NUNN ATLANTA FEDERAL CENTER 61 FORSYTH STREET, SW, SUITE 23T85 ATLANTA, GEORGIA 30303-8931

July 28, 2006

Carolina Power and Light Company
ATTN: Mr. Tom Walt
Vice President - Robinson Plant
H. B. Robinson Steam Electric Plant
Unit 2
3851 West Entrance Road
Hartsville, SC 29550

SUBJECT: H.B. ROBINSON STEAM ELECTRIC PLANT - NRC INTEGRATED

INSPECTION REPORT 05000261/2006003

Dear Mr. Walt:

On June 30, 2006, the US Nuclear Regulatory Commission (NRC) completed an inspection at your H.B. Robinson reactor facility. The enclosed integrated inspection report documents the inspection findings, which were discussed on July 12, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, the inspectors identified one issue of very low safety significance (Green). This issue was determined to involve a violation of NRC requirements. However, because of its very low safety significance and because it has been entered into your corrective action program, the NRC is treating this issue as a non-cited violation (NCV), in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you contest this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the H.B. Robinson facility.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public

Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Paul E. Fredrickson, Chief Reactor Projects Branch 4 Division of Reactor Projects

Docket No.: 50-261 License No.: DPR-23

Enclosure: Inspection Report 05000261/2006003

w/Attachment: Supplemental Information

cc w\encls:(See page 3)

Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Paul E. Fredrickson, Chief Reactor Projects Branch 4 Division of Reactor Projects

Docket No.: 50-261 License No.: DPR-23

Enclosure: Inspection Report 05000261/2006003

w/Attachment: Supplemental Information

cc w\encls:(See page 3)

X PUBLICLY AVAILABLE

NON-PUBLICLY AVAILABLE

SENSITIVE

X NON-SENSITIVE

ADAMS: X Yes ACCESSION NUMBER: ML062090230

OFFICE	DRS	DRS	DRS	DRP	DRP	DRP	
SIGNATURE	JLK /RA/	RKH /RA/	WTL /RA/	SON /RA/	DWJ /RA/	RCH /RA/	
NAME	JKreh	RHamilton	WLoo	SNinh	DJones	BHagar	
DATE	7/24/06	7/24/06	7/24/06	7/24/06	7/28/06	7/28/06	
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: E:\Filenet\ML062090230.wpd

cc w/encls:
William G. Noll
Director, Site Operations
Carolina Power & Light Company
H. B. Robinson Steam Electric Plant
Electronic Mail Distribution

Daniel G. Stoddard
Plant General Manager
Carolina Power & Light Company
H. B. Robinson Steam Electric Plant
Electronic Mail Distribution

Chris L. Burton, Manager Performance Evaluation and Regulatory Affairs CPB 9 Electronic Mail Distribution

C. T. Baucom, Supervisor Licensing/Regulatory Programs Carolina Power & Light Company H. B. Robinson Steam Electric Plant Electronic Mail Distribution

J. F. Lucas, Manager Support Services - Nuclear Carolina Power & Light Company H. B. Robinson Steam Electric Plant Electronic Mail Distribution

Henry J. Porter, Director
Div. of Radioactive Waste Mgmt.
Dept. of Health and Environmental
Control
Electronic Mail Distribution

R. Mike Gandy
Division of Radioactive Waste Mgmt.
S. C. Department of Health and
Environmental Control
Electronic Mail Distribution

Beverly Hall, Acting Director
Division of Radiation Protection
N. C. Department of Environment,
Health and Natural Resources
Electronic Mail Distribution

David T. Conley Associate General Counsel - Legal Dept. Progress Energy Service Company, LLC Electronic Mail Distribution

John H. O'Neill, Jr. Shaw, Pittman, Potts & Trowbridge 2300 N. Street, NW Washington, DC 20037-1128

Chairman of the North Carolina Utilities Commission c/o Sam Watson, Staff Attorney Electronic Mail Distribution

Robert P. Gruber Executive Director Public Staff - NCUC 4326 Mail Service Center Raleigh, NC 27699-4326

Public Service Commission State of South Carolina P. O. Box 11649 Columbia, SC 29211

Distribution w/encl: (see page 4)

Report to T. Walt from Paul Fredrickson dated July 28,2006

SUBJECT: H.B. ROBINSON STEAM ELECTRIC PLANT - NRC INTEGRATED INSPECTION REPORT 05000261/2006003

Distribution w/encl:

C. Patel, NRR
C. Evans
L. Slack, RII EICS
OE Mail
RIDSNRRDIRS
PUBLIC

U. S. NUCLEAR REGULATORY COMMISSION REGION II

Docket No: 50-261

License No: DPR-23

Report No: 005000261/2006003

Facility: H. B. Robinson Steam Electric Plant, Unit 2

Location: 3581 West Entrance Road

Hartsville, SC 29550

Dates: April 1, 2006 - June 30, 2006

Inspectors: R. Hagar, Senior Resident Inspector

D. Jones, Resident Inspector

R. Hamilton, Senior Health Physicist (Sections 2OS1, 4OA1,

40A5)

W. Loo, Senior Health Physicist (Section 2PS2)
J. Kreh, Senior Health Physicist (Section 2OS2)

Approved by: P. Fredrickson, Chief

Reactor Projects Branch 4 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000261/2006-003; 04/01/2006 - 06/30/2006; Carolina Power and Light Company; H.B. Robinson Steam Electric Plant, Unit 2; Access Control to Radiologically Significant Areas

The report covered a three month period of inspection by resident inspectors, a senior health physicist, a health physicist and an emergency preparedness inspector. One Green non-cited violation was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Occupational Radiation Safety

Green. The inspectors identified a non-cited violation (NCV) of Technical Specifications (TS) 5.3.1 for failure to ensure the Manager of Radiation Control function met the minimum qualification requirements specified in ANSI/ANS 3.1-1981, American National Standard for Selection, Qualification, and Training of Personnel for Nuclear Power Plants.

The finding is greater than minor because it is associated with the Occupational Radiation Safety Cornerstone attribute of Program and Process and adversely affected the cornerstone objective of ensuring the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. This finding was evaluated using the Occupational Radiation Safety SDP and was determined to be of very low safety significance because there were supervisors in the Radiation Protection department who met the minimum qualification requirements for this position and these individuals provided advise and assistance to the assigned Manager of Radiation Control. This finding was entered into the corrective action program as Action Requests (ARs) 187587 and 196260 (Section 2OS1).

B. <u>Licensee-Identified Violations</u>

None.

REPORT DETAILS

<u>Summary of Plant Status</u> The unit began the inspection period at full rated thermal power. On April 15, power was reduced to approximately 35 percent power to enable repair of a steam leak inside containment. On April 16, the unit was returned to full power and operated at full power for the remainder of the inspection period.

REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

When a tornado watch that was a result of Tropical Depression Alberto was issued for the site on June 14, the inspectors reviewed actions taken by the licensee in accordance with Procedure **OMM-021**, **Operation During Adverse Weather Conditions**, prior to the onset of that weather, to ensure that the adverse weather conditions would neither initiate a plant event nor prevent any system, structure, or component (SSC) from performing its design function. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

a. Inspection Scope

Partial System Walkdowns:

The inspectors performed the following three partial system walkdowns, while the indicated SSCs were out-of-service for maintenance and testing:

System Walked Down SSC Out-of-Service

Motor driven auxiliary feedwater (AFW)

Steam driven AFW pump

trains A and B

Service water (SW) Train A D SW pump

B emergency diesel generator (EDG) A EDG

To evaluate the operability of the selected trains or systems under these conditions, the inspectors compared observed positions of valves, switches, and electrical power breakers to the procedures and drawings listed in the Attachment.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

For the six areas identified below, the inspectors reviewed the control of transient combustible material and ignition sources, fire detection and suppression capabilities, fire barriers, and any related compensatory measures to verify that those items were consistent with Updated Final Safety Analysis Report (UFSAR) Section 9.5.1, Fire Protection System, and UFSAR Appendix 9.5.A, Fire Hazards Analysis. The inspectors walked down accessible portions of each area and reviewed results from related surveillance tests to verify that conditions in these areas were consistent with descriptions of the areas in the UFSAR. Documents reviewed are listed in the Attachment.

The following areas were inspected:

Fire Zone	Description
19	Unit 2 Cable Spreading Room
20	Emergency Switchgear Room and Electrical Equipment Area
7	Auxiliary Building Hallway (Ground Floor)
22	Control Room
6	AFW Pump room
1	Diesel Generator B Room

Also, to evaluate the readiness of personnel to prevent and fight fires, the inspectors observed fire brigade performance during the announced fire drill held on June 8 in the building that houses the C auxiliary boiler.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

a. <u>Inspection Scope</u>

Internal Flooding

Because the component cooling water pump room contains risk-significant SSCs which are susceptible to flooding from postulated pipe breaks, the inspectors walked down the room to verify that the area configuration, features, and equipment functions were consistent with the descriptions and assumptions used in Calculation RNP-F/PSA-0009, Assessment of Internally Initiated Flooding Events. The inspectors also reviewed the operator actions in Procedure AOP-022, Loss of Service Water, Attachment 4, Flood Control in the Auxiliary Building to verify that the desired results could be achieved. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

Annual Review

a. Inspection Scope

The inspectors observed the biennial inspection of the jacket-water and lubricating-oil heat exchangers on the A EDG to verify that inspection results were appropriately categorized against the pre-established acceptance criteria described in Procedure CM-201, Safety Related and Non-Safety Related Heat Exchanger Maintenance. The inspectors also verified that the frequency of inspection was sufficient to detect degradation prior to loss of heat removal capability below design basis values. Documents reviewed are listed in the Attachment.

b. <u>Findings</u>

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. <u>Inspection Scope</u>

The inspectors observed licensed-operator performance during requalification simulator training for crew one to verify that operator performance was consistent with expected operator performance, as described in three training scenarios that are listed in the Attachment. This training tested the operators' ability to respond to a loss of condenser vacuum caused by a reactor trip, a large break loss of coolant accident, and a loss of a SW header. The inspectors focused on clarity and formality of communication, the use of procedures, responses to alarms, control board manipulations, group dynamics, and supervisory oversight.

The inspectors observed the post-exercise critique to verify that the licensee identified deficiencies and discrepancies that occurred during the simulator training.

b. <u>Findings</u>

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. <u>Inspection Scope</u>

The inspectors reviewed the two degraded SSC/function performance problems or conditions listed below to verify the appropriate handling of these performance problems or conditions in accordance with 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, and 10 CFR 50.65, Maintenance Rule. Documents reviewed are listed in the Attachment.

Performance Problem/Condition	AR
Component cooling water pump A failed to start	179668
when the control switch was taken to start.	

Single functional failure of emergency lighting system 182271

During the reviews, the inspectors focused on the following:

- Appropriate work practices,
- Identifying and addressing common cause failures,
- Scoping in accordance with 10 CFR 50,65(b).
- Characterizing reliability issues (performance).
- · Charging unavailability (performance),
- Trending key parameters (condition monitoring).
- 10 CFR 50,65(a)(1) or (a)(2) classification and reclassification, and
- Appropriateness of performance criteria for SSCs/functions classified (a)(2) and/or appropriateness and adequacy of goals and corrective actions for SSCs/functions classified (a)(1).

b. <u>Findings</u>

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

For the three time periods listed below, the inspectors reviewed risk assessments and related activities to verify that the licensee performed adequate risk assessments and implemented appropriate risk-management actions when required by 10 CFR 50.65(a)(4). For emergent work, the inspectors also verified that any increase in risk was promptly assessed, and that appropriate risk-management actions were promptly implemented. Documents reviewed are listed in the Attachment.

- Work week of April 1 April 7, including scheduled maintenance on the D SW pump and associated breaker
- Work week of April 29 May 5, including scheduled maintenance on the C SW pump and B fuel oil transfer pump breaker
- Work week of May 13 May 19, including scheduled maintenance on the A motordriven feedwater pump and emergent work on the D instrument air compressor

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Nonroutine Plant Evolutions

a. <u>Inspection Scope</u>

During the two non-routine evolutions identified below, the inspectors observed plant instruments and operator performance to verify that the operators performed in accordance with the associated procedures and training.

- The downpower from 100 percent to approximately 35 percent power on April 15
- The subsequent return to full power on April 16

Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the two operability determinations listed below. The inspectors assessed the accuracy of the evaluations, the use and control of any necessary compensatory measures, and compliance with the TS. The inspectors verified that the operability determinations were made as specified by Procedure PLP-102, "Operability Determinations." The inspectors compared the justifications provided in the determinations to the requirements from the TS, the UFSAR, and associated design-

basis documents to verify that operability was properly justified and the subject components or systems remained available, such that no unrecognized increase in risk occurred:

- Operability Condition Review 189410, Small Leak and Associated Condensation Issuing from C Steam Generator Secondary Side Manway
- Engineering Disposition 64041, [Water Cooled Condensing Unit]-1A Flooded Starts

Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. <u>Inspection Scope</u>

For the five post-maintenance tests listed below, the inspectors witnessed the test and/or reviewed the test data to verify that test results adequately demonstrated restoration of the affected safety functions described in the UFSAR and TS. Documents reviewed are listed in the Attachment.

The following tests were witnessed/reviewed:

Test Procedure	<u>Title</u>	Related Maintenance Activity
OST-302-2	Service Water Pumps C and D Inservice Test	Impeller clearance adjustment and breaker maintenance
MST-030	4 KV Undervoltage to Reactor Protection	Replacement of the 4 KV bus 4 undervoltage testing relay, and the associated reactor protection train A logic and test relays
OST-401-2	Emergency Diesel Generator B Slow	Replacement of the solenoid coils for the air start valves
OP-903	Service Water	Breaker inspection for D SW water pump
OST-201-2	Motor Drive Auxiliary Feedwater System Component Test -	Calibration B AFW pump discharge pressure switches

Train B

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. <u>Inspection Scope</u>

For the six surveillance tests listed below, the inspectors witnessed testing and/or reviewed the test data to verify that the SSC involved in these tests satisfied the requirements described in the TS, the UFSAR, and applicable licensee procedures, and that the tests demonstrated that the SSCs were capable of performing their intended safety functions. Documents reviewed are listed in the Attachment.

Test Procedure	<u>Title</u>
OST-202* OST-051** OST-902 MST-902 OST-252-2 OST-924-1	Steam Driven Auxiliary Feedwater System Component Test Reactor Coolant System Leakage Evaluation Containment Fan Coolers Component Test A and B Station Battery Test RHR System Valve Test - Train B Area Radiation Monitoring System (Quarterly) [for R2,
	Containment Area Monitor

^{*}This procedure included inservice testing requirements.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. <u>Inspection Scope</u>

The inspectors reviewed two temporary modifications described in the Engineering changes (ECs) listed below to verify that the modifications did not affect the safety functions of important safety systems, and to verify that the modifications satisfied the requirements of 10 CFR 50, Appendix B, Criterion III, Design Control.

EC 63769, C Steam Generator Secondary Manway Leak Repair EC 63967, Recorder Installation to Monitor PC-951B [Containment Pressure]

Documents reviewed are listed in the Attachment.

^{**} This procedure included testing of a large containment isolation valve.

^{***} This procedure was a Reactor Coolant System leakage detection surveillance.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstones: Occupational Radiation Safety (OS) and Public Radiation Safety (PS)

2OS1 Access Control to Radiologically Significant Areas

a. Inspection Scope

Access Controls. The inspectors evaluated the licensee's procedures for posting, surveying, and controlling access to airborne radioactivity areas, radiation areas, high radiation areas (HRA), and very HRAs, against the requirements of 10 CFR Part 20. During plant walk-downs and radiation work permit (RWP) reviews, the inspectors evaluated radiological postings and barricades against the current radiation surveys for areas in the auxiliary buildings, and the independent spent fuel storage installation (ISFSI) to verify that the established radiological controls were appropriate. In addition, the inspectors independently verified the dose rates recorded on current survey maps at various locations in plant areas, including the ISFSI. General area dose rates and contamination levels were compared to licensee survey records. The inspectors observed Health Physics (HP) technician proficiency in performing and documenting the radiation surveys for radiological work areas.

RWPs used to access radiation areas, HRAs, and very HRAs were evaluated to verify that the licensee was establishing appropriate radiation protection (RP) controls for those areas. The inspectors evaluated the method for establishing dose alarms and dose rate alarm set-points to verify that it was based on knowledge of the radiological conditions of the work areas and job activities. Radiological workers were questioned by the inspectors to verify that they knew their dosimeter alarm set-points and their required response when they alarmed.

During the inspection there were no airborne areas with the potential for individual radiation workers to exceed an internal dose greater than 50 mem. CEDE (20 DACHours). However, the inspectors were able to evaluate the usage of engineering controls such as high efficiency particulate air filters to control potential airborne releases by reviewing surveys and pictures of work areas.

The inspectors reviewed the spent fuel pool (SFP) area to verify that there were no tools or equipment tied on rails surrounding the SFP, and that the licensee maintained an inventory of all materials stored in the SFP.

Access controls for locked HRAs were reviewed and discussed with RP management and supervision. The inspectors checked designated locked door locations and reviewed documentation to verify the condition and status of the locked doors. The

inspectors also evaluated implementation of key controls and postings for very HRAs and locked HRAs.

The inspectors reviewed the qualifications of the recently appointed Superintendent, Radiation Control (RC), and the RC Supervisors. This was accomplished by interviewing the individuals and reviewing their resumes. In addition, the inspectors interviewed occupational radiation workers, HP personnel and line supervisors, and assessed their knowledge of occupational radiation safety.

The RP program activities and their implementation were evaluated against applicable requirements of 10 CFR Part 19 - Notices, Instructions And Reports To Workers and 10 CFR Part 20 - Standards for Protection Against Radiation. Additionally, the following TS requirements were used in the review of access controls to radiological significant areas: Section 5.3, Unit Staff Qualifications; Section 5.4, Procedures; and Section 5.7, High Radiation Areas. Procedures and records reviewed within this inspection area are listed in the Attachment.

<u>Problem Identification and Resolution</u>. Access control issues identified through the licensee's self-assessments and corrective action program (CAP) were reviewed and discussed with cognizant licensee representatives. The inspectors assessed the licensee's ability to characterize, prioritize, and resolve the issues identified in the RP program area in accordance with Procedure CAP-NGGC-0200, Corrective Action Program, Revision (Rev.) 16, and Procedure CAP-NGGC-0205, Significant Adverse Condition Investigations, Rev. 4. The specific records, procedures, and documentation reviewed are identified in the Attachment.

The inspectors completed 21 of the required 21 samples for Inspection Procedure (IP) 71121.01. All samples have now been completed for this IP.

b. Findings

Introduction A Green NRC-identified NCV of TS 5.3.1 was identified for failure to ensure the Manager of the Radiation Control function (referred to as the 'Superintendent RP') met the minimum qualification requirements specified in ANSI/ANS 3.1-1981, American National Standard for Selection, Qualification, and Training of Personnel for Nuclear Power Plants. The individual who was selected for this position did not have professional RP experience required by ANSI/ANS 3.1.

<u>Description</u> The Superintendent RP, at the time of the inspection (June 2006), had been in the position since December 2005. The qualification requirements for this position are specified in TS 5.3.1 which states that the manager of the radiation control function shall meet or exceed the minimum qualifications of ANSI/ANS 3.1. After comparing the specific requirements of ANSI/ ANS 3.1 to the work history listed on the new Superintendent's resume, the inspectors questioned whether the minimum qualification requirements were satisfied. The inspectors held subsequent discussions with the licensee to better understand the individual's work history and to evaluate the licensee's rationale used when selecting the individual for this position. Based on this

review, the inspectors determined that the Superintendent RP did not meet the minimum qualification requirements of ANSI/ANS 3.1 - 1981.

The specific requirements of ANSI/ANS 3.1 that were not satisfied at the time the individual was selected for the Superintendent RP position included: 1) At least four years of experience in applied RP of which at least three years of this experience shall be in applied RP work in a nuclear facility dealing with radiological problems similar to those encountered in nuclear power plants preferably in a nuclear power plant; and 2) During the three years, the individual shall participate in the RP section of an operating nuclear power plant during a routine refueling outage (one or two months) and during two months operation above 20 percent power. At the time of the inspection, however, the Superintendent RP had satisfied the requirements involving a routine refueling outage and plant operation above 20 percent power.

<u>Analysis</u> The failure to comply with TS 5.3.1 with regard to the qualifications of the Superintendent RP is a performance deficiency. It was within the licensee's ability to ensure the individual's work history and experience meets the minimum qualification requirements prior to selection.

This violation is greater than minor because it is associated with the program and process attribute of both the Occupational and Public Radiation Safety Cornerstones and adversely affects the cornerstone objectives of ensuring adequate protection of both the worker and public health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. Failure to have a fully qualified Superintendent RP could adversely impact the radiation protection organization's effectiveness. This finding was evaluated using the Occupational Radiation SDP. The finding was determined to be of very low safety significance (Green) because there were experienced supervisors in the RP organization who met the minimum qualifications of ANSI/ANS 3.1 and these supervisors provided advise and assistance to the Superintendent. In addition, using the SDP flow chart the finding was determined to be Green because it was not an ALARA finding, it did not involve an overexposure, did not involve a substantial potential for overexposure, and the licensee's ability to assess dose was not compromised. The same Green determination resulted when using the Public Radiation Safety SDP flow chart.

<u>Enforcement</u> TS 5.3.1 requires that the Manager of the Radiation Control function shall meet or exceed the minimum qualifications of ANSI/ANS 3.1 - 1981. Paragraph 4.4.4 of ANSI/ANS 3.1 specifies the Radiation Protection group leaders' qualification requirements and states that the individual shall have at least four years of experience in applied radiation protection of which at least three years of this experience shall be in applied RP work in a nuclear facility dealing with radiological problems similar to those encountered in nuclear power plants, preferably in a nuclear power plant. In addition during the three years of experience, the individual shall participate in the RP section of an operating nuclear power plant during a routine refueling outage (one or two months) and during two months operation above 20 percent power.

Contrary to the above, the individual who was selected for the Manager of Radiation Controls functions in December 2005 did not have four years of experience in applied radiation protection. At the time of selection the individual also did not meet the requirement of having participated in the RP section of an operating nuclear power plant during a routine refueling outage (one or two months) and during two months operation above 20 percent power. This portion of ANSI/ANS 3.1 had been satisfied at the time of the inspection (June 2006). Because the failure to meet TS 5.3.1 was determined to be of very low safety significance and was entered into the licensee's corrective action program as ARs 187587 and 196260, the violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 50-261/2006003-XX, Failure to Meet Technical Specification Requirements for Radiation Protection Manager Qualification.

2OS2 ALARA Planning and Controls

a. Inspection Scope

As Low As Reasonably Achievable (ALARA). The inspectors evaluated ALARA program guidance and its implementation for refueling outage (RFO) 23, which occurred during the period of September 17 - October 25, 2005. The inspectors reviewed, and discussed with licensee staff, ALARA work plan (AWP) documents including dose estimates and prescribed ALARA controls for selected outage work activities that incurred significant collective doses. The inspectors reviewed the implementation of dose-reduction initiatives for high person-rem expenditure tasks and assessed the effectiveness of source-term reduction efforts. These elements of the ALARA program were evaluated for consistency with the methods and practices delineated in applicable licensee procedures.

Projected AWP dose expenditure estimates were compared to actual dose expenditures, and noted differences were discussed with cognizant ALARA staff. Changes to dose budgets relative to changes in job scope also were identified and discussed.

Implementation and effectiveness of selected program initiatives with respect to sourceterm reduction were evaluated. Shutdown chemistry program actions and cleanup initiatives, and their resultant effect on containment and auxiliary building area and equipment dose rate trending data were reviewed and compared to previous refueling outage data. Cobalt reduction initiatives for reactor coolant system valve replacement activities were reviewed and discussed with licensee ALARA staff.

The plant collective exposure histories for calendar years (CYs) 2004 and 2005, based on the data reported to the NRC pursuant to 10 CFR 20.2206, were reviewed and discussed with licensee staff, as were established goals for reducing collective exposure.

ALARA program activities and their implementation were evaluated against 10 CFR 19.12; 10 CFR Part 20, Subparts B, C, F, G, H, and J; and approved licensee procedures. In addition, licensee performance was evaluated against Regulatory Guide 8.8, Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations will be As Low As Reasonably Achievable. Procedures and records reviewed within this inspection area are listed in the Attachment.

<u>Problem Identification and Resolution</u>. Licensee CAP documents associated with ALARA activities were reviewed and assessed. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve issues in accordance with corrective action program requirements. Specific assessments, audits, and AR documents reviewed and evaluated in detail for this inspection area are identified in the Attachment. The inspectors completed 16 of the required 29 samples for IP 71121.02.

b. Findings

No findings of significance were identified.

2PS2 Radioactive Material Processing and Transportation

a. <u>Inspection Scope</u>

<u>Waste Processing and Characterization.</u> The inspectors evaluated licensee procedures for processing and characterizing radioactive waste (radwaste). Inspection activities included direct observation of processing equipment for solid and liquid radwaste and evaluation of waste stream characterization data.

Solid and liquid radwaste equipment was inspected for material condition and configuration. The configurations were compared with the UFSAR and with the Process Control Program (PCP) requirements. Inspected equipment included liquid radwaste hold-up tanks; resin transfer piping; abandoned waste evaporators; and vendor liquid radwaste processing system. The inspectors discussed system changes and operability status with cognizant licensee representatives. Licensee procedures for resin transfer, collection and packaging were evaluated.

Licensee radionuclide characterizations for selected waste streams were reviewed and discussed with the radwaste staff. The Inspectors evaluated the analyses for hard-to-detect nuclides for the various waste streams including primary resin, filters and dry active waste. The analysis results were compared to the data contained in the plants Annual Radiological Operating Report and to selected shipping records to verify that appropriate scaling factors were being applied. The inspectors interviewed plant radwaste staff and reviewed procedural guidance to evaluate the licensee's program for monitoring changing operational parameters.

Radwaste processing activities were reviewed for consistency with the licensee's PCP, Rev. 5; and UFSAR, Chapter 11, Amendment 19. Waste stream characterization analyses were reviewed against regulations detailed in 10 CFR Part 61.55 and guidance

provided in the Branch Technical Position on Waste Classification and Waste Form, 1983. Reviewed documents are listed in the Attachment.

<u>Transportation</u>. The inspectors evaluated the licensee's activities related to transportation of radioactive material. The evaluation included direct observation of shipment preparation activities and review of shipping related documents.

At the time of the inspection, the licensee made only one shipment that was directly observed by the inspectors. The shipment was an excepted package of limited quantity containing RST-004 leak check smears. As part of the document review, the inspectors reviewed shipping documents for selected shipments and discussed those records with cognizant radwaste personnel. The inspectors evaluated the shipping records for consistency with licensee procedures and compliance with NRC and DOT regulations. In addition, training records for selected individuals currently qualified to ship radioactive material were checked for completeness, and the training curriculum developed for these workers was evaluated.

Transportation program implementation was reviewed against regulations detailed in 10 CFR Parts 20 and 71, 49 CFR Parts 170-189; as well as the guidance provided in NUREG-1608. Training activities were assessed against 49 CFR Part 172 Subpart H.

<u>Problem Identification and Resolution</u>. Selected ARs associated with radwaste processing and transportation were reviewed. The inspectors assessed the licensee's ability to characterize, prioritize, and resolve the identified issues in accordance with procedure CAP-NGGC-0200, Corrective Action Program, Rev. 16. Reviewed documents are listed in Section 2PS2 of the report Attachment.

The inspectors completed 6 of the required 6 samples for Inspection Procedure (IP) 71122.02.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors verified the PIs identified below. For each PI, the inspectors verified the accuracy of the PI data that had been previously reported to the NRC by comparing that data to the actual data. The inspectors also compared the basis for reporting each data element to the PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Rev. 2. In addition, the inspectors interviewed licensee personnel associated with collecting, evaluating, and distributing this data.

Barrier Integrity Cornerstone

Reactor Coolant System Specific Activity PI

The inspectors observed sampling and analysis of a reactor coolant system sample, and compared the reported performance indicator data with records developed by the licensee while analyzing previous samples, for the period from the fourth quarter of 2004 through the fourth quarter of 2005.

Reactor Coolant System Leak Rate PI

The inspectors observed a reactor coolant system leakage evaluation, and reviewed records of daily measures of reactor coolant system identified leakage, for the period from the fourth quarter of 2004 through the fourth quarter of 2005.

Occupational Radiation Safety (OS) Cornerstone

Occupational Exposure Control Effectiveness PI

The inspectors reviewed data collected from October 2005 through May 2006, and reviewed the licensee's procedure for reporting PI data to the NRC, Regulatory Nuclear Generation Group Corporate Procedure - 0009, NRC Performance Indicators, Rev. 5, as well as records relevant to this PI. Specifically, the inspectors reviewed selected corrective action issues and individual RCA exit transactions with ED readings exceeding 100 millirem to assess reporting data for potential unplanned exposures and RCA exit transactions which resulted in dose rate alarm activation to evaluate entries where dose rates were higher than expected. Reviewed documents relative to this PI are listed in the Attachment.

Public Radiation Safety (PS) Cornerstone

 Radiological Effluent Technical Specification/Offsite Dose Calculation Manual Radiological Effluent Occurrences PI

The inspectors reviewed a listing of radiological effluent related corrective action program records generated from October 2005 through May 2006 and the most recent annual radioactive effluent release report to verify that radiological effluent release occurrences were properly classified. In addition, licensee procedural guidance for classifying and reporting PI events was evaluated. Reviewed documents are listed in the Attachment.

The inspectors completed two of the required samples for IP 71151, one sample for the OS PI and one sample for the PS PI.

b. <u>Findings</u>

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

.1 Routine Review of ARs

To aid in the identification of repetitive equipment failures or specific human performance issues for followup, the inspectors performed frequent screening of items entered into the CAP. The review was accomplished by reviewing daily ARs.

.2 Annual Sample Review

a. <u>Inspection Scope</u>

The inspectors selected AR 157793, [Nuclear Assessment Section] Maintenance Assessment Issue #2 (R-MA-05-01-I2) for detailed review. The inspectors selected this AR because it related generally to the cross-cutting area of human performance. The inspectors reviewed this report to verify:

- complete and accurate identification of the problem in a timely manner:
- evaluation and disposition of performance issues;
- evaluation and disposition of operability and reportability issues;
- consideration of extent of condition, generic implications, common cause, and previous occurrences;
- appropriate classification and prioritization of the problem:
- identification of root and contributing causes of the problem;
- identification of corrective actions which were appropriately focused to correct the problem; and
- completion of corrective actions in a timely manner.

The inspectors also reviewed this AR to verify compliance with the requirements of the CAP as delineated in Procedure CAP-NGGC-0200, Corrective Action Program, and 10 CFR 50, Appendix B. Documents reviewed are listed in the Attachment.

b. Observations and Findings

No findings of significance were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspector's review focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in Section 4OA2.1, licensee trending efforts, and licensee human performance results. The inspector's review nominally considered the six month period of January through June 2006, although some examples expanded beyond those dates when the scope of the trend warranted. The review included issues documented outside the normal CAP in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self assessment reports, and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the latest monthly and quarterly trend reports. Corrective actions associated with a sample of the issues identified in the trend reports were reviewed for adequacy. The specific documents reviewed are listed in the Attachment.

The inspectors also evaluated the trend reports against the requirements of the CAP as specified in 10 CFR 50, Appendix B, Criterion XVI, and in Procedures CAP-NGGC-0200, Corrective Action Program, CAP-NGGC-0206, Corrective Action Program Trending and Analysis.

b. Assessment and Observations

No findings of significance were identified. The inspectors evaluated trending methodology and observed that the licensee had performed a detailed review. The licensee routinely reviewed cause codes, involved organizations, key words, and system links to identify potential trends in their CAP data. The inspectors compared the licensee process results with the results of the inspectors' daily screening, and did not identify any discrepancies or potential trends in the CAP data that the licensee had failed to identify.

40A5 ISFSI

a. <u>Inspection Scope</u>

The inspectors reviewed the status and surveillances of the horizontal ISFSIs. The inspectors reviewed alpha, beta, gamma, and neutron surveys that were performed during the dry cask storage campaigns conducted between August 5 - September 2, 2005. The surveys included surveys of the cask, transfer cask, cask preparation area, SFP and ISFSI final surveys after cask placement. The reviewed items included RP shift turnover logs for each shift from August 2 to September 2, 2005, area quarterly thermo-luminescence device results from April 2005 through April 2006, cask certificate

of compliance and TS. The inspectors walked down the facilities and performed boundary verification surveys for the ISFSIs.

b. Findings

No findings of significance were identified.

4OA6 Meetings

On July 12, 2006, the resident inspectors presented the inspection results to Mr. Tom Walt and other members of his staff. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

Attachment: Supplemental Information

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

- C. Church, Operations Manager
- E. Kapopoulos, Engineering Manager
- E. Caba, Engineering Superintendent
- B. Clark, Nuclear Assurance Manager
- J. Huegel, Maintenance Manager
- W. Noll, Director of Site Operations
- D. Blackeney, Outage and Scheduling Manager
- D. Stoddard, Plant General Manager
- W. Farmer, Engineering Superintendent
- J. Lucas, Manager, Support Services Nuclear
- T. Walt, Vice President, Robinson Nuclear Plant
- T. Tovar, Radiation Protection Superintendent
- S. Wheeler, Supervisor, Regulatory Support
- G. Ludlum, Training Manager

NRC personnel

P. Fredrickson, Chief, Reactor Projects Branch 4

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

<u>Opened</u>		
None		
Opened and Closed		
05000261/2006003,	NCV,	Failure to Meet Technical Specification Requirements for Radiation Protection Manager Qualification (Section 20S1).
Closed		
None		
Discussed		

None

LIST OF DOCUMENTS REVIEWED

1R01 Adverse Weather Protection

Procedures

OMM-021, Operation During Adverse Weather Conditions, Rev. 28

1R04 <u>Equipment Alignment</u>

Partial System Walkdown

Steam Driven Auxiliary Feedwater Train:

Drawing G-190197, Feedwater, Condensate and Air Evacuation System Flow Diagram, Sheet 1 of 4, Rev. 75

Drawing G-190197, Feedwater, Condensate and Air Evacuation System Flow Diagram, Sheet 4 of 4, Rev. 55

Clearance Order Checklist 112948, Steam Driven Auxiliary Feedwater Pump

Service Water Train A:

Clearance Order Checklist 111512, Inspection and Testing of 52/CB-1 and 52/CB-2 (Service Water Pump D)

Operating Procedure, OP-903 Service Water System, Rev. 96

Emergency Diesel Generator system:

Drawing G-190204-A, Emergency Diesel Generator System Flow Diagram, Rev. 18

1R05 Fire Protection

UFSAR Sections

- 3.1.5.5, Fire Zone 19 Unit 2 Cable Spreading Room
- 3.1.5.6, Fire Zone 20 Emergency Switchgear Room and Electrical Equipment Area
- 3.1.3.2, Fire Zone 7 Auxiliary Building Hallway (Ground Floor)
- 3.1.5.7, Fire Zone 22 Control Room
- 3.1.6, Appendix R Fire Area A6 (Fire Zone 6) Auxiliary Feedwater Pump Room
- 3.1.1, Appendix R Fire Area A1 (Fire Zone 1) Diesel Generator B Room

Procedures

results from OST-611-11, Low Voltage Fire Detection and Actuation System Zones 19 and 20 (Semi-Annual), Rev. 4, dated 12/8/05

results from OST-611-6, Low Voltage Fire Detection and Actuation System Zones 11 and 13 (Semi-Annual), Rev. 3, dated 12/24/05

results from OST-611-12, Low Voltage Fire Detection and Actuation System Zones 22 and 23 (Semi-Annual), Rev. 3, dated 12/30/05

Procedures

OMM-003, Fire Protection Pre-Plans/Unit No. 2, Rev. 45 uncontrolled pre-plan for building number 360 © Auxiliary Boiler Building)

1R06 Flood Protection Measures

Procedure AOP-022, Loss of Service Water, Rev. 28

1R07 Heat Sink Performance

Procedure CM-201, Safety Related and Non-Safety Related Heat Exchanger Maintenance, Rev. 38

1R11 <u>Licensed Operator Requalification</u>

Operations Training Scenarios

LOCT-05-6, [Abnormal Operating Procedure] Scenario, Rev. 1

LOCT-05-5, Full Scope Scenario, Rev. 1

SSS-002, Static Simulator Scenario, Rev. 8

1R12 Maintenance Effectiveness

Action Requests

176109, Failure of [Component Cooling Water] Pump A to Start from the [Control Board]

179668, Failure of [Component Cooling Water] Pump A to Start

182271, Single Functional Failure of Emergency Lighting System

Procedures

PM-047. Emergency Lighting System Unit Load Test. Rev. 5

PM-459, Self-Contained DC Emergency Lighting System, Rev. 9

SP-771, Verification and Documentation of Dedicated Shutdown Emergency Lighting Adequacy, Rev. 1

Maintenance Rule Documents

For system 4080 (Component Cooling Water System):

- Event Log Report for 1/1/04 5/23/06
- Scoping and Performance Criteria

For system 5215 (Emergency DC Lighting System):

· Scoping and Performance Criteria

Other

Work Order 791211-01, ELS-27 Failed to Light During SP-771 Work Order 791207-01, ELS-50 Failed to Light During Performance SP-771

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

Procedure OMM-048, Work Coordination and Risk Assessment, Rev. 26

1R14 Personnel Performance During Nonroutine Plant Evolutions

Procedure OP-105, Maneuvering the Plant When Greater Than 25 percent Power, Rev. 33

Guidance for April 15, 2006 Power Maneuver, dated 04/12/2006

1R15 Operability Evaluations

Generic Issue Document, GID/90-181/00/RCI, Reactor Containment Isolation, Rev. 7 UFSAR Section 6.4, Habitability System

UFSAR Section 9.4.2, Control Room Air Conditioning System

Engineering Service Request 9700249, [Water Cooled Condensing Unit] Heater Alarm Information, Rev. 0

Procedure APP-048, Main Control Room [Heating Ventilation and Air Conditioning] System Panel, Rev. 14

Design Basis Document, DBD/R87038/SD36, Post-Accident [Heating Ventilation and Air Conditioning] Systems, Rev. 10

1R19 Post Maintenance Testing

Procedure

OST-302-2, Service Water Pumps C and D Inservice Test, Rev. 38

MST-030, 4 KV Undervoltage to Reactor Protection Testing, Rev. 4

MST-020, Reactor Protection Logic Train A at Power, Rev. 25

OST-401-2, [Emergency Diesel Generator] B Slow Speed Start, Rev. 28

OP-903, Service Water, Rev. 96

PM-323, Circuit Breakers 52/CB-1 and 52/CB-2, Rev. 1

OST-201-2, MDAFW System Component Test - Train B, Rev. 23

Work Order

816679-01, Check and Reset Impeller Clearance on D Service Water Pump

793674-05, Replace Motor Cut-off Switch on [Dedicated Shutdown] Breaker 52/33B

810509-01, Replace Solenoid Coils B [Emergency Diesel Generator] Air Start

515348-01, Manual Breakers [Service Water Pump] D Normal/Alternate Supply

Drawings

CP-380-5379-3246, Reactor Protection System, Sheet 8 of 14, Rev. 12

1R22 <u>Surveillance Testing</u>

Procedures

OST-051, Reactor Coolant System Leakage Evaluation, Rev. 34

OST-202, Steam Driven Auxiliary Feedwater System Component Test, Rev. 62

OST-902, Containment Fan Coolers Component Test, Rev. 34

MST-902, A and B Station Battery Test, Rev. 26

OST-252-2, RHR System Valve Test, Rev. 16

OST-924-1, Area Radiation Monitoring System, Rev. 11

Other

Instruction Manual, Anton Paar - DMA 35N, Portable Density/Specific Gravity/Concentration Meter

1R23 <u>Temporary Plant Modifications</u>

Engineering Change 63769, C Steam Generator Secondary Manway Leak Repair, Rev. 2 Engineering Change 63967, Recorder Installation to Monitor PC-951B, Rev 0 EGR-NGGC-005, Engineering Change, Rev. 24

2OS1 Access Control To Radiologically Significant Areas

Procedures and Guidance Documents

AP-031, Administrative Controls for Entry into Locked and Very High Radiation Areas, Revision (Rev.) 39

CAP-NGGC-0200, Corrective Action Program, Rev. 16

CAP-NGGC-0202, Operating Experience Program, Rev. 10

CAP-NGGC-0205, Significant Adverse Condition Investigations, Rev. 4

CAP-NGGC-0206, Corrective Action Program Trending and Analysis, Rev. 1

DOS-NGGC-0007, Internal Dose Calculations, Rev. 9

HPP-001, Radiologically Controlled Area Surveillance Program, Rev. 85

HPP-004, Radiological Control of Tools and Equipment, Rev. 48

HPP-006, Radiation Work Permits, Rev. 70

HPP-007, Handling and Storage of Contaminated and Radioactive Materials, Rev. 25

HPP-008, Steam Generator Inspection and Maintenance, Rev. 24

HPP-009, Control of Radiographic Operations, Rev. 19

HPP-010, Control of Radioactive Materials Outside of the Primary Radiation Control Area, Rev. 16

HPP-012, Monitoring and Changing of Plant Process Filters, Rev. 12

HPP-013, Radiation Protection During Operations, Rev. 9

HPP-105, Airborne Radioactivity Surveillance, Rev. 29

HPP-111, Control and Use of Respiratory Protection Equipment, Rev. 32

HPP-314, Removal of Tri-Nuc Filters/Trash from the Spent Fuel Pool, Rev. 10

HPP-500-3, Radiation Control Work Planning Process, Rev. 10

HPP-500-4, Health Physics - Conduct of Pre-job Briefings, Rev. 8

HPP-500-5, Radiation Control - Conduct of Radiological Job Coverage, Rev. 2

HPS-NGGC-0003, Radiological Posting, Labeling and Surveys, Rev. 8

HPS-NGGC-0013, Personnel Contamination Monitoring, Decontamination, and Reporting, Rev. 3

HPS-NGGC-0014, Radiation Work Permits, Rev. 3

HPS-NGGC-0016, Access Control, Rev. 2

NGGM-PM-0002, Radiation Control & Protection Manual, Rev. 35

PLP-031, Contamination Monitoring Program for Personnel/personal Effects, Rev. 30

PLP-061, Special Nuclear Material (SNM) Control and Accounting, Rev. 14

Records and Data

Certificate of Compliance 1004, USA/72-1004, Amendment 8, 12/05/2005 Letter RNP-RA/06-0053, Supplemental Response To Allegation No. RII-2006-A-0015, 06/19/06

Assessment and Corrective Action Program (CAP) Documents

Nuclear Assessment Section (NAS) Report, RO-23 Outage Assessment, RNAS 05-083,

12/6/2005

NAS Report, Robinson Nuclear Plant Radiation Protection Assessment Report, RNAS 05-081, 11/21/2005

Nuclear Condition Report (NCR) 00173085, Workers Asked To Exit Transfer Canal Because Of Dose Rates

AR 00182121, Problems Encountered With WWDS Resin Sluice

AR 00188589, Evaluate Survey Frequency For High Radiation Areas

AR 00192368, Evaluate Existing RA's In Plant For Removal

AR 00192585, Negative Observations Regarding Radiation Worker Practices

AR 00193534, Posting Found Partially Down

AR 00196749, RC Work Planning Process

Self-Assessment Report, 141814, Material and Personnel Release, 06/06-06/10/05

2OS2 <u>ALARA Planning and Controls</u>

Procedures and Guidance Documents

ADM-NGGC-0105, ALARA Planning, Rev. 7

CAP-NGGC-0200, Corrective Action Program, Rev. 16

CP-010, Primary System Chemistry, Rev. 21

EGR-NGGC-0201, Incorporation of ALARA for Design and Engineering Work, Rev. 2

EC-04-001, Primary Chemistry Strategic Plan, Rev. 1

HPP-500-3, Radiation Control Work Planning Process, Rev. 10

PLP-017, ALARA Program and ALARA Committee Activities/Responsibilities, Rev. 21

Robinson Nuclear Plant, ALARA Continuous Improvement Plan, Fuel Cycle 24, Rev. 0

Records and Data

ALARA Review Status, 10/25/2005

ALARA Work Plan (AWP) Number (No.) 23-027, RO-23 Permanent Shield Wall, Rev. 0 (including post-job ALARA critique)

AWP No. 23-029, RO-23 VHRA/LHRA Barriers, Rev. 0 (including post-job ALARA critique)

AWP No. 23-043, Reactor Head Replacement Project, Rev. 0 (including post-job ALARA critique)

AWP No. 23-045, RO-23 CCW Support Modification, Rev. 0 (including post-job ALARA critique) Cobalt 58 Activity Comparisons for RO-19 through RO-23

NAS Report No. R-OM-05-02, RO-23 Outage Assessment, 12/06/2005

Progress Energy, H. B. Robinson Nuclear Plant, 2005 ALARA Report, 03/02/2006

Progress Energy, H. B. Robinson Nuclear Plant, Refueling Outage No. 23, ALARA Report, 01/11/2006

RO-23 Shutdown Chemistry and Dose Rate Data for Letdown Line Radiation Monitor R-9 Response for RO-19 through RO-23

RO-23 Daily RC Status Report, 10/26/2005 (compilation of final dose and AWP data from RO-23)

CAP Documents

AR 170637, LHRA Barrier Modification Project exceeded dose projections in the ALARA Plan

AR 171312, Initial dose projection for the Permanent Shield Wall Barrier modification was low and required development of an ALARA Plan during the ongoing work

AR 171313, Initial dose projection for the CCW Support modification was low and required development of an ALARA Plan during the ongoing work

AR 171906, RMS-1, -2, -3, -4 modification exceeded the dose estimate for the job by an appreciable amount

AR 173047, Contamination levels at the start of cavity decontamination were higher than expected

AR 177679, Reactor head set duration in RO-23 was longer than expected due to the extra precautions taken by the refueling team

AR 198913, Some items in lessons learned database were inadequately dispositioned

2PS2 Radioactive Material Processing and Transportation

Procedures and Guidance Documents

AP-032, Radioactive Waste Volume Reduction, Rev. 12

CAP-NGGC-0200, Corrective Action Program, Rev. 16

CAP-NGGC-0201, Self-Assessment Program, Rev. 8

CP-100, Waste Water Demineralization System Operation and CVCS Hut Water Processing, Rev. 39

HPS-NGGC-0001, Radioactive Material Receipt and Shipping Procedure, Rev. 17

HPP-004, Radiological Control of Tools and Equipment, Rev. 48

HPP-007, Handling and Storage of Contaminated and Radioactive Materials, Rev. 25

HPP-010, Control of Radioactive Materials Outside of the Primary Radiation Control Area, Rev. 16

HPP-203, Resin Transfer from the 40 Cubic Foot Bechtel Pressure Vessel to a Waste Processing Container, Rev. 0

HPP-218, Collection and Sorting of Trash and Laundry, Rev. 12

HPP-241, Annual Solid Waste Report, Rev.6

HPP-242, Control of Contaminated Waste Oil Storage System, Rev. 10

HPP-245, Handling and Storage of Mixed Waste, Rev. 5

NGGM-PM-0002, Radiation Control & Protection Manual, Rev. 3

Process Control Program (PCP), Rev. 5

Records and Data

Radioactive Material Shipping and Receiving Logs for Calendar Years 2004, 2005 and 2006 Year-To-Date

Radman Database Report for Robinson Nuclear Power Plant, Change 43, Dated 05/22/06 Shipping Papers for Shipment Nos. 05-0043, 05-0050, 05-0087, 06-0009, 06-0011, 06-0025, and 06-0026

Assessment and CAP Documents

AR 00153766, Received HIC-Ar-195-218 that was incorrectly stenciled AR 00166938, Error on radioactive label on new fuel shipment that arrived from Areva Framatome due to printing flaw from manufacturer on one of two labels

AR 00168256, A review of the source inventory and certification log book found that radioactive receipt paperwork had not been completed for a source AR 00172998, Limited quantity package containing a source was received with the bottom reading 0.8 mrem/hr using a GM tube meter, vendor used an ion chamber Self-Assessment Report No. 141812, Radwaste Volume Reduction

4OA1 Performance Indicator Verification

Dose Equivalent lodine Results, dated 11/04, 03/05, and 09/05

Procedure RCP-101, Preparation of Effluent and Non-Effluent Samples, Rev. 8

Procedure CP-023, Gas Analysis, Rev. 15

Procedure RCP-133, Determination of [Reactor Coolant System] Radiochemical, E-Bar and I-131 Dose Equivalent, Rev. 12

results from OST-051, Reactor Coolant System Leakage Evaluation, dated 10/2004 - 12/2005

4OA2 Identification and Resolution of Problems

Site-Wide Analysis of Condition Reports for Performance Trends: January 1 – March 31, 2006 Robinson Engineering Monthly Performance Report: May 18, 2006; February 22, 2006; March 20, 2006; April 25, 2006

Maintenance CAP Rollup & Trend Analysis: December, 2005; January, 2006; February, 2006 E&C and RC CAP Rollup & Trend Analysis: December, 2005; January, 2006; February, 2006 Operations CAP Rollup & Trend Analysis: November and December, 2005; January, 2006; February, 2006

Plant Support Group CAP Rollup & Trend Analysis: December, 2005 and January, 2006; February and March, 2006

4OA5 <u>Independent Spent Fuel Storage Installations</u>

Records and Data

Certificate of Compliance 1004, USA/72-1004, Amendment 8, 12/05/2005 Quarterly TLD Results 2d Quarter 2005 to 1st Quarter 2006 Shift Turnover Logs 08/02 - 09/02/2005 Surveys of Cask, Cask Preparation Area, Spent Fuel Pool and ISFSI